Chapter Four

The Long-Term Budget Outlook

The outlook for the deficit appears relatively benign over the next decade. After declining for the past four years, the deficit is expected to creep up as a share of gross domestic product from 1996 to 2006 under current laws and policies. Although the increase is fairly modest, it is by no means the end of the story, because a deeper and more fundamental problem is coming over the budgetary horizon.

Around 2010, members of the huge baby-boom generation will start to retire. They will also increasingly begin to draw benefits from the government's three biggest entitlement programs--Social Security, Medicare, and Medicaid. At the same time, the growth of revenues will be squeezed because the proportion of people working and paying taxes will shrink. As a result, deficits will start to mount rapidly.

Financing the growth in entitlements through ever-increasing deficits is not a viable option. Indeed, the shortfalls projected for future years are so large that they could put an end to the upward trend in living standards that the nation has long enjoyed. Thus, current U.S. budget policies cannot be sustained indefinitely without risking substantial economic damage. At some point, taxes will have to be raised or the growth of spending curbed.

The conclusions reached here are derived from a model that the Congressional Budget Office has developed for projecting the budget outlook over several decades and for examining the effects of the deficit on interest rates and economic growth. Obviously, projections of future events are subject to considerable uncertainty. To get a sense of the likely range of outcomes, CBO developed its projections by using a broad spectrum of possible assumptions and conditions. Although the exact outcomes are sensitive to changes in demographics, economic factors, and the interpretation of policy, the basic conclusion holds: the nation's current budget policies are unsustainable even under optimistic assumptions, including favorable demographic trends and historically high rates of productivity growth. The chances are small that the long-term budgetary problem will resolve itself without action by policymakers.

The Aging of the U.S. Population

The proportion of elderly people in the U.S. population will increase substantially in coming decades (see Table 4-1). According to the Social Security Administration, the number of people age 65 and older will more than double between 1990 and 2030, whereas the number of working-age people, 20 to 64 years old, will increase by only 25 percent. Consequently, over the next several decades, each worker's taxes will support a growing number of retirees.

Table 4-1.
Population of the United States by Age, Calendar Years 1950-2050

Age Groups	1950	1970	1990	Projected 2010	2030	2050
			In Millions			
Less than 20 Years Old	54	81	75	82	83	84
20 to 64 Years Old	93	113	153	186	192	202
65 Years and Older	13	21	32	40	68	75
Total	159	215	260	307	343	360
			As a Percentage of Total Population			
Less than 20 Years Old	34	38	29	27	24	23
20 to 64 Years Old	58	53	59	60	56	56
65 Years and Older	8	10	12	13	20	21
Total	100	100	100	100	100	100
Memorandum:						
Number of People Ages 20 to 64 for Each Person Age 65 or Older	7.3	5.4	4.8	4.7	2.8	2.7

SOURCE: Congressional Budget Office using data from the Social Security Administration.

Why Will the Number of Retirees Increase?

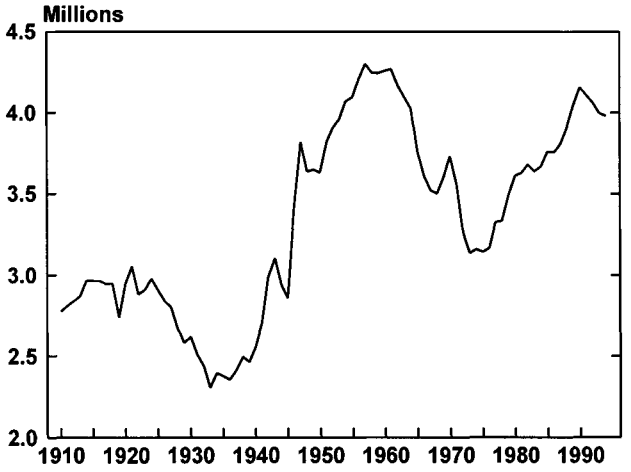
The expected increase in the number of elderly people stems from two factors: the baby-boom generation is aging, and people are living longer. Before World War II, the number of births in the United States slid to a low point (see Figure 4-1). Babies born during the Depression and during the war constitute the population reaching retirement age within the next decade. Their small numbers provide a respite in the pressure on the budget for the next 10 years.

After World War II, the number of births soared, which substantially changed the demographic picture. Between 1956 and 1961, births jumped to more than 4.2 million each year and did not drop below 4 million until 1965. Babies born between 1946 and 1964 have been labeled the baby-boom generation, and they will begin to draw Social Security benefits in 2008, when the oldest of them first reach age 62.[1] After the mid-1960s, the number of births dropped even more and did not reach 4 million again until 1989. Because the baby boom was followed by a baby bust, the retirement of the baby boomers will significantly reverse the currently favorable impact of demographics on the budget.

The second reason for the projected increase in the number of retirees is that elderly people are expected to live longer than they did in the past. In 1970, demographers expected the average person at birth to live about 71 years. By 1990, the average life span had increased to 75 years; by 2010, it will increase to 78 years. Those gains in longevity reflect such factors as increased education, healthier living, and improvements in the quality of medical care for older people. Of particular relevance for entitlement

1. The normal retirement age for receiving Social Security benefits is now 65, but it is scheduled under current law to start increasing in 2000, eventually reaching age 67.

Figure 4-1.
Number of Births in the United States, 1910-1994



SOURCE: Congressional Budget Office using data from the National Center for Health Statistics.

spending is that a larger proportion of the adult population is reaching the age of 65, and life expectancy at that age has increased by two years since 1970--a 14 percent increase.

Slowing Labor Force Growth

The growth of the labor force will slow significantly when the baby boomers retire because it will have to rely on the smaller birth cohorts that followed the boomers. In addition, the rate of participation of women in the labor force, which escalated sharply in the 1970s and 1980s, is likely to grow less rapidly in the future as their participation rate approaches that of men. The Social Security Administration projects that the average rate of growth of the labor force will slow from the 1.9 percent per year it achieved from 1960 to 1989 to 0.9 percent annually for the 1989-2010 period and 0.2 percent between 2010 and 2050.

Like all long-range projections, those for the labor force are highly uncertain. Nevertheless, the relatively high rate of growth of the labor force in the past 35 years is unlikely to continue. Higher rates of immigration could prevent some of the expected deceleration, but for the labor force to continue to grow through 2030 at even 1 percent a year, its average annual rate since 1990, rates of immigration would have to greatly exceed those seen early in this century.

Despite those uncertainties, the overall message is clear: with more retirees and little growth in the number of workers, the ratio of workers to retirees will plummet in coming decades. In 1950, for each person age 65 or older, there were 7.3 people in the working years from 20 to 64. By 1990, that ratio had dropped to 4.8 to 1; by 2030, there may be only 2.8 people of working age for every person over 65. The United States is not alone in facing these problems: populations are graying in other industrialized countries, too (see Box 4-1).

How Will Demographics Affect the Budget?

Both the outlay and revenue sides of the federal ledger will be strained as the ratio of workers to retirees deteriorates. Outlays for government programs that provide retirement and health benefits to the elderly will rise substantially as the number of people eligible to receive those benefits shoots up. At the same time, revenues will be pinched because the number of people working and paying taxes will grow more slowly. Moreover, as the growth of the labor force slows, economic growth will taper off, causing the growth of taxable nonlabor income, such as interest and dividends, to slow as well. Of particular concern are Social Security and Medicare's Hospital Insurance program. (Because those entitlements are now structured to rely on payroll taxes, the growth of labor earnings is one of the keys to their financial health.) In addition, the slowdown in growth of GDP will affect general revenues, which finance Medicaid and Medicare's Supplementary Medical Insurance program, among others.

The projected mismatch between spending and revenues will be a serious one. For example, outlays for Social Security and Medicare's Hospital Insurance program are projected to grow from 6.4 percent of GDP in 1995 to 10.7 percent in 2050. At the same time, the inflows of funds (excluding interest) for those two programs are projected to fall from 6.7 percent of GDP in 1995 to 6.5 percent in 2050. So al-

Box 4-1.
Aging of Populations and Its Effect on Government Budgets in Other Countries

Most developed countries will find their populations rapidly aging in the near future (see the table below). In 1990, elderly dependency ratios--people age 65 and over as a percentage of the population ages 20 to 64--for most industrialized countries clustered around 20 percent. But by 2030, those ratios are projected to more than double in Japan, Germany, France, Italy, and Canada. The aging of the population in the United Kingdom, where the elderly dependency ratio started in 1990 at a relatively high level, is projected to be less pronounced; nonetheless, the ratio reaches over 40 percent by 2030. Beyond 2030, projections call for elderly dependency ratios to stabilize in all countries except Japan and Italy, where further increases of more than 10 percentage points are expected. Compared with other countries, the United States is in a relatively favorable position.

Aging will have a major impact on the budgets of most of the major industrialized countries, although the consequences differ depending on the starting position of each nation's public debt, its policies for the elderly, and the nature of the demographic changes. In particular, the liabilities that a government has incurred through public pension systems and spending for public health dictate the effects that an aging population will have on its budget. For example, Japan is likely to see a steep rise in its overall budget deficit and a rapid accumulation of net debt from 2005 onwards, whereas net debt in Italy will begin to increase sharply after 2015. In contrast, both the United Kingdom and Canada are likely to experience falling ratios of net debt to output, reflecting relatively favorable pension policies.[1]

1. For further information, see Willi Leibfritz and others, *Ageing Populations, Pension Systems, and Government Budgets: How Do They Affect Saving?* OECD Economics Department Working Paper No. 156 (Paris: Organization for Economic Cooperation and Development, 1995).

Elderly Dependency Ratios
(In percent)

	1990	2010	2030	2050
Japan	19.3	35.8	48.7	60.1
Germany	23.6	32.9	53.8	57.5
France	23.4	27.2	43.1	48.4
Italy	24.3	33.8	52.4	66.7
United Kingdom	26.7	28.6	42.8	45.8
Canada	18.6	22.9	43.6	46.5
United States	20.8	21.3	35.7	37.0

SOURCE: Congressional Budget Office using data from E. Bos and others, *World Population Projections, 1994-1995* (Washington, D.C.: International Bank for Reconstruction and Development/The World Bank, 1994), and from the Social Security Administration.

though inflows exceed spending for those programs now, that surplus will disappear, and a large gap between spending and inflows will open up. By 2050, outlays are projected to exceed inflows by about 70 percent.[2]

2. All numbers are taken from Board of Trustees, Federal Old-Age and Survivors and Disability Insurance Trust Funds, *1995 Annual Report* (April 3, 1995).

The Continued Rapid Growth of Federal Health Expenditures

Rapidly rising expenditures per beneficiary in the Medicare and Medicaid programs will present a par-

ticularly serious challenge to the budget in coming years unless significant steps are taken to reduce their rate of growth. Federal spending for health care has been growing at a fast pace for many years. Over the past decade, expenditures for Medicare have increased at an annual rate of about 10 percent; Medicaid spending has risen at a rate of about 15 percent (see Table 4-2). Despite the apparent recent success of private insurers in controlling their mounting costs, the federal government thus far has been unable to apply the brakes to its health spending. CBO projects that outlays for Medicare and Medicaid will continue to rise by almost 10 percent a year over the next decade. With such growth, Medicare and Medicaid spending is taking up an increasing share of national income: from 1.3 percent of GDP in fiscal year 1975 to 3.7 percent in 1995. CBO projects that the share will rise to 5.9 percent in fiscal year 2006.

Although some of that growth comes from an expansion in the number of beneficiaries, most of it is attributable to continuing increases in expenditures per beneficiary at rates well in excess of inflation. Unlike Social Security, whose real (inflation-adjusted) spending for each beneficiary is set legislatively by a formula that depends on a person's wage history, traditional Medicare and Medicaid are open-ended entitlements in the sense that they place no dollar limit on the benefits they provide to each participant. CBO projects that over the next decade, federal spending per enrollee in Medicare and Medicaid will increase at more than twice the rate of

Table 4-2.
Average Annual Rates of Growth in Payments by Medicare and Medicaid (By fiscal years, in percent)

	1970-1975	1975-1980[a]	1980-1985	1985-1990	1990-1995	1995-2006[b]
			Medicare			
Growth in Payments by the Federal Government[c]	16	18	15	9	11	9
Growth in the Number of Enrollees[d]	4	3	2	2	2	1
Growth in Federal Payments per Enrollee	12	15	13	7	8	8
			Medicaid			
Growth in Payments by the Federal Government[e]	22	15	9	13	17	10
Growth in the Number of Beneficiaries	9	0	0	3	7	2
Growth in Federal Payments per Beneficiary	12	15	9	9	9	7
Memorandum:						
Growth in the CPI-U	7	9	6	4	3	3
Growth in Nominal GDP	9	11	9	7	5	5

SOURCE: Congressional Budget Office based on data from the Health Care Financing Administration; Department of Commerce, Bureau of Economic Analysis; and Department of Labor, Bureau of Labor Statistics.

NOTE: The treatment of home ownership in the official consumer price index for all urban consumers (CPI-U) changed in 1983. The inflation series in the table uses a consistent definition throughout.

a. Growth rates account for the change in the fiscal year that occurred in 1976.

b. Projected.

c. Excludes Medicare premium collections.

d. Based on enrollees in Medicare's Hospital Insurance program.

e. Includes administrative costs and payments to disproportionate share hospitals.

inflation, as measured by the consumer price index for all urban consumers.

The growth in expenditures per beneficiary in those programs stems from increases in the number and quality of services provided for a spell of illness and such factors as the expanded use of expensive medical technology. Those factors will continue to increase the burden of health costs in the years ahead. The trustees of Medicare's Hospital Insurance Trust Fund assume that Medicare costs per beneficiary will slow significantly over the next two decades and that after 2020, those costs will grow no faster than the economy. That slowdown would require the growth of costs per beneficiary to drop substantially. Whether that decline would occur without an explicit change in law is unclear. Even so, the trustees project that total Medicare spending will continue to climb sharply, rising from 2.6 percent of GDP in 1995 to 8.1 percent in 2050.

The Long-Term Effects of an Aging Population

What would happen if no changes were made to U.S. budget policy in the face of the impending retirement of the baby boomers? CBO addressed that hypothetical question by projecting future budget revenues and expenditures under various economic and demographic conditions and examining their impact on the federal deficit and the economy over the next several decades. The approach used by CBO is broadly similar to that taken by the General Accounting Office and the Office of Management and Budget in considering the same question.[3]

Developing computer models of the long-term implications of existing laws and policies requires making assumptions about the basic nature of policy in the absence of change. For the period from 1996 to 2006, CBO assumed in its baseline projections that taxes and mandatory spending would follow current law and that discretionary outlays would grow with inflation, subject to their statutory caps (see Chapter 2).

But extending such detailed assumptions over the long run is hard to justify. For one thing, techniques that are suitable for preparing 10-year budget projections are not appropriate for the very long run. Moreover, for the annually appropriated discretionary programs, future levels of spending are not specified in statute. For example, does current defense policy call for constant nominal levels, for expenditures to grow with inflation, or for expenditures to grow by more than inflation over the next 50 years? Obviously, the answer to that question depends on such factors as the goals of U.S. foreign policy and changing defense technology, which cannot be known today.

To allow for the different possibilities, CBO prepared two sets of projections. One assumes that discretionary programs after 2006 will grow at the rate of inflation, which holds their real value constant in today's dollars. The other assumes that discretionary programs will keep pace with the growth of the economy, which allows the amount spent on the discretionary accounts to rise with both inflation and real economic growth. Holding the growth of discretionary programs to the rate of inflation--rather than letting them grow with the economy--implies that spending for those programs as a share of GDP would decline over the projection period.

Budget Assumptions

The assumptions underlying CBO's projections of spending and revenues for the most important budget categories are briefly described below. Those assumptions formed a base scenario; varying them produced alternative scenarios. For 1996 to 2006, spending and revenues followed the medium-term projections presented in Chapter 2. For the years after 2006, CBO combined the official long-term projections (with some adjustments) for the Social Security, Medicare, and federal retirement programs prepared by other government organizations with some relatively neutral assumptions about spending

3. General Accounting Office, *Budget Policy: Prompt Action Necessary to Avert Long-Term Damage to the Economy* (June 1992), and *The Deficit and the Economy: An Update of Long-Term Simulations* (April 1995); Office of Management and Budget, *Budget of the United States Government, Fiscal Year 1997: Analytical Perspectives* (March 1996), pp. 20-25.

and revenues in the other categories of the budget. Because CBO's analysis focuses on macroeconomic relationships, its long-term projections use the budget categories defined by the national income and product accounts (see Appendix D for details).

Retirement Programs. CBO based its projections for Social Security on the long-term projections prepared by the trustees of the Old-Age and Survivors and Disability Insurance (OASDI) Trust Funds. However, CBO adjusted those projections for differences between its economic assumptions and those of the trustees.[4] Because CBO projected much lower rates of inflation than did the trustees, the level of Social Security outlays in its projections is much lower than that in the trustees' projections. But when outlays are expressed as a share of GDP, the differences between CBO's numbers and those of the trustees are hardly noticeable because low inflation also reduces nominal GDP. Spending for federal civilian and military retirement was based on the projections prepared by the Office of Personnel Management and the Department of Defense, after adjusting for differences in assumptions about the growth of real wages.

Health Programs. CBO based its projections of Medicare outlays on the forecasts prepared by the trustees of the Hospital Insurance Trust Fund. Those forecasts were also adjusted for differences in economic assumptions. (Again, those differences are small when spending is expressed as a share of gross domestic product.)

CBO assumed that Medicaid spending would grow with the demands for Medicaid by its client population and with federal health care expenditures per beneficiary. Growth in spending per enrollee of a given age was assumed to decline gradually to the rate of growth of hourly wages over the 2006-2020 period and then to grow with them after 2020. That assumption is roughly consistent with the trustees' assumptions about Medicare.

Other Transfers, Grants, and Subsidies. CBO assumed that spending for other domestic transfers and grants would grow with demographic demands, inflation, and labor productivity. Domestic transfers in this case include food stamps, Supplemental Security Income, unemployment insurance, the earned income credit, and veterans' benefits, among other things; grants include Aid to Families with Dependent Children and other federal programs that transfer funds to state and local governments. Transfer payments to foreigners and other subsidies were assumed to grow with the economy.

Federal Expenditures for Defense and Nondefense Goods and Services. These expenditures are largely discretionary, and funds for them are appropriated annually. As noted, no one quite knows how to specify those spending levels for a period as long as half a century. To deal with that uncertainty, CBO used two alternative assumptions about discretionary spending: it would grow either at the same rate as inflation or at a rate that reflected both inflation and real growth of the economy.

Receipts. CBO assumed that federal taxes would grow at roughly the same rate as the economy, except for taxes collected on income from interest on Treasury securities (which is part of the income tax base, not GDP). As a technical matter, revenue growth also reflects growth in Supplementary Medical Insurance (Part B of the Medicare program), some of which enrollees finance through premiums that are treated as receipts in the NIPAs. Absent an increase in the share of income devoted to interest or Medicare premiums, tax revenues were assumed to remain a stable share of the economy. That assumption is not an exact extrapolation of current law, but it is not much different from CBO's 10-year baseline revenue projections, which show little change in the share of GDP claimed by revenues after 2000. Moreover, because the revenue share has been relatively stable over many years, CBO's assumption is consistent with long-term historical trends.

Economic Assumptions in the Base Scenario

CBO developed its projections of the economy using a standard model of economic growth. In that model, the production of goods and services in the economy, as measured by GDP, depends on hours of labor, capital, and total factor productivity. The key interest

4. In the base scenario, CBO used the same demographic assumptions as did the trustees.

rate in the model is the overall rate of return from capital after adjusting for inflation and depreciation, and it is determined by the amount of capital relative to labor in the economy. (Everything else being equal, the higher the level of capital, the lower is the rate of return.) In all of its projections, CBO assumed that inflation after 2006 would remain steady at 2.7 percent, the rate of growth of the chain-type GDP price index expected early in the next decade (see Chapter 1).

CBO's model also makes provision for the way the nation's debt (the total amount that the government explicitly owes) interacts with the economy. Federal deficits crowd out capital investment, which slows economic growth and raises interest rates. As a result, tax revenues decline, and the cost of servicing the debt goes up. Those economic feedbacks between the deficit and the economy can significantly increase the size of the deficit--in essence, impose a fiscal penalty rather than a dividend. To identify the contribution of those feedback effects, CBO presents its long-term analysis in two parts: the first assumes that the deficit has no effect on the economy; the second includes the feedbacks between the two.

Economic Growth. From 1996 to 2006, the base scenario follows the medium-term projections presented in Chapter 1. For the years after 2006, CBO used the following assumptions:

- The annual growth in hours of work slows to a crawl as the baby boomers leave the workforce or otherwise reduce their average hours of work. As a result, the annual growth of total hours in the nonfarm economy drops from its average rate of 1.6 percent from 1979 to 1989 to only 0.1 percent between 2020 and 2030.[5]

- Growth of capital depends on whether the projection includes economic feedbacks. In projections without economic feedbacks, capital grows at the same rate as the overall economy after 2006, and rising deficits have no effect on the formation of capital or economic growth. By contrast, in projections with economic feedbacks, burgeoning deficits crowd out capital investment and slow the growth of the capital stock. The effect of the deficit on capital investment in those projections, however, is assumed to be partially offset by increased private saving and by borrowing from abroad.

- An adjusted measure of total factor productivity (TFP), which is the growth in output that is not attributable to growth in either capital or labor, rises 0.7 percent each year--its average pace from 1952 to 1989 (two years in which the economy was operating at full capacity).[6]

Those assumptions, taken together, determine the underlying, or potential, growth of the economy. GDP also varies for cyclical reasons, but that variation averages out over time and is not considered further in this chapter.

Using those assumptions, CBO projected the economy's long-term growth. If economic feedbacks are not included, the annual growth of real GDP (neglecting cyclical factors) would drop from 2.1 percent in 2005 to 1.3 percent in 2030. That decline reflects the slowdown in the growth of total labor hours. In the projections that include feedbacks, the decline in the growth of real GDP can be even sharper when deficits reduce the economy's potential for growth.

Economists often use GDP to put a common scale on budget revenues and outlays over time, and CBO has followed that practice in this chapter. But for measuring real economic income per person, CBO used the concept of gross national product, or GNP. Unlike GDP, gross national product does not include the net dividend and interest payments owed to foreigners who invest in the United States; as a result, it is a better measure than GDP of the income actually available to the U.S. population. In the projections without economic feedbacks, the growth of GNP matches that of GDP quite closely. However, in the projections with feedbacks, GNP and GDP di-

5. The OASDI trustees' projection implies a similar slowing in the growth of hours.

6. CBO adjusted the TFP published by the Commerce Department so that advances in computer power were recorded as gains to TFP, not as increases in the size of the capital stock. That adjustment allowed CBO to avoid developing projections for computer prices, which have been falling steadily for years.

Table 4-3.
Projections of the Deficit and Debt Held by the Public, Using the Assumptions of the Base Scenario, Calendar Years 1995-2050 (As a percentage of GDP)

	Preliminary 1995[a]	2000	2005	2010	2015	2020	2025	2030	2050
Discretionary Spending Grows with Inflation After 2006									
Without Economic Feedbacks									
NIPA deficit	2	3	3	4	6	8	10	12	19
Debt held by the public	51	53	57	64	77	97	124	157	311
With Economic Feedbacks									
NIPA deficit	2	3	3	4	6	9	15	26	n.c.
Debt held by the public	51	53	57	63	78	104	148	229	n.c.
Discretionary Spending Grows with the Economy After 2006									
Without Economic Feedbacks									
NIPA deficit	2	3	3	5	7	9	12	15	24
Debt held by the public	51	53	57	65	81	106	139	180	373
With Economic Feedbacks									
NIPA deficit	2	3	3	5	7	11	19	37	n.c.
Debt held by the public	51	53	57	65	83	116	174	293	n.c.

SOURCE: Congressional Budget Office.

NOTES: Projections without economic feedbacks assume that deficits do not affect either interest rates or economic growth. Projections with feedbacks allow deficits to push up interest rates and lower the rate of economic growth.

NIPA = national income and product account; n.c. = not computable (debt would exceed levels that the economy could reasonably support).

a. Consistent with the first official estimate for 1995 published on March 4, 1996.

verge significantly because deficits are partly financed by additional borrowing from foreigners.

Interest Rates. Like CBO's projections of economic growth, its projections of interest rates also depend on the presence or absence of economic feedbacks from the growth of federal debt. If feedbacks are not included, interest rates on government securities fall slightly, as the slower growth of hours increases the ratio of capital to labor.[7] By contrast, rates can climb sharply when the economic feedbacks from rising federal debt are included. As federal debt displaces private capital, capital becomes scarcer, and the real return from capital rises--which causes other interest rates to climb as well. CBO assumed that real interest rates would rise point for point with increases in the real return from capital. In some of its projections, CBO examined the effects of balancing the budget. In those projections, CBO assumed that the Federal Reserve would soften the short-term effects on the economy of balancing the budget by working to reduce short-term rates. Over time, the monetary stimulus from the Federal Reserve would be withdrawn, and interest rates in the long run would be determined solely by the amount of capital relative to labor.

7. That projection is somewhat optimistic because the retirement of the baby-boom generation is likely to cause a decline in private saving that will put upward pressure on interest rates.

Table 4-4.
Projections of Federal Receipts and Expenditures, Using the Assumptions of the Base Scenario Without Economic Feedbacks, Calendar Years 1995-2050 (As a percentage of GDP)

	Preliminary 1995[a]	2000	2005	2010	2015	2020	2025	2030	2050
Discretionary Spending Grows with Inflation After 2006									
NIPA Receipts	20	20	20	20	20	20	20	20	20
NIPA Expenditures									
Federal consumption expenditures	6	6	5	5	4	4	4	4	3
Transfers, grants, and subsidies									
Social Security	5	5	5	5	5	6	6	7	7
Medicare	3	3	4	4	5	6	7	7	8
Medicaid	1	2	2	2	3	3	3	3	4
Other	5	5	4	4	4	4	4	4	4
Net interest	3	3	3	3	4	5	6	8	14
Total	23	22	23	24	26	28	30	32	40
NIPA Deficit	2	3	3	4	6	8	10	12	19
Debt Held by the Public	51	53	57	64	77	97	124	157	311
Discretionary Spending Grows with the Economy After 2006									
NIPA Receipts	20	20	20	20	20	20	20	20	20
NIPA Expenditures									
Federal consumption expenditures	6	6	5	5	5	5	5	5	5
Transfers, grants, and subsidies									
Social Security	5	5	5	5	5	6	6	7	7
Medicare	3	3	4	4	5	6	7	8	8
Medicaid	1	2	2	2	3	3	3	3	4
Other	5	5	4	4	4	4	4	4	4
Net interest	3	3	3	3	4	5	7	8	16
Total	23	22	23	24	27	29	32	35	44
NIPA Deficit	2	3	3	5	7	9	12	15	24
Debt Held by the Public	51	53	57	65	81	106	139	180	373
Memorandum:									
Gross Domestic Product (Trillions of dollars)	7.2	9.2	11.6	14.6	18.1	22.1	26.9	32.8	72.1

SOURCE: Congressional Budget Office.

NOTES: Projections without economic feedbacks assume that deficits do not affect either interest rates or economic growth.

NIPA = national income and product account.

a. Consistent with the first official estimate for 1995 published on March 4, 1996.

Projections Without Economic Feedbacks

The assumptions described above are the key elements in the long-term projections, and because of their critical importance, a wide range of alternative assumptions will also be considered. But to keep the analysis relatively simple, the first long-term projections CBO presents use the assumptions of the base scenario without considering how deficits would adversely affect the economy--that is, without incorporating economic feedbacks.

Even without those feedbacks, the outlook for the budget deficit is gloomy in the early decades of the 21st century. Without changes in budget policy, the deficit would increase to relatively high levels by 2030. Under either assumption about discretionary spending (that it rises either with the rate of inflation or at the same rate as the economy), the deficit would climb from 2 percent of GDP in 1995 to between 12 percent and 15 percent in 2030 (see Table 4-3 on page 77). Moreover, the deficit would continue to rise rapidly in the years thereafter, surging to between 19 percent and 24 percent of GDP in 2050. By any standard, the deficit would be exceptionally large, even before considering the effects of economic feedbacks. In fact, since the nation's founding, the U.S. deficit has exceeded 10 percent of GDP for only a few brief periods--and those occurred during major wars.

In turn, the total amount that the government owed would soar to historic levels. Since 1790, the United States has let its federal debt exceed 100 percent of GDP only once for a brief period during World War II, and until the 1980s, the ratio of debt to GDP had never risen significantly during a period of peace and prosperity. But under the base scenario, the national debt would surge from 51 percent of GDP in 1995 to 157 percent in 2030 if discretionary spending grew with inflation. If it grew with the economy, the debt would burgeon to 180 percent of GDP. Because the debt would be forever growing faster than the economy, it would ultimately become unsustainable.

Although deficits need not reduce economic growth if the funds they provide have been used to finance productive government investment, little of the projected growth in federal debt would be used for that purpose. Instead, the growth in borrowing would go largely to increase consumption by elderly people and to pay interest on the debt (see Table 4-4). In CBO's projections, outlays for Social Security would increase from 5 percent of GDP in 1995 to 7 percent in 2050; Medicare spending would rise from 3 percent of GDP in 1995 to 8 percent in 2050. Federal Medicaid spending would move upward from 1 percent of GDP in 1995 to about 4 percent in 2050, reflecting the growth in the cost of health care per enrollee and the increasing number of elderly people who need nursing home care. Revenues and other noninterest outlays would remain a relatively constant share of GDP.

Projections with Economic Feedbacks

The long-term budget outlook becomes even bleaker when the projections include the effect of the deficit on the economy. With discretionary outlays growing with inflation, the federal deficit would increase to 26 percent of GDP in 2030 (see Table 4-5). And if discretionary spending grew with the economy, the federal deficit would climb to 37 percent of GDP.

Those increases would clearly push federal debt to unsustainable--indeed, unthinkable--levels. In the end, they would greatly weaken the economy and end the long-term upward trend in real GNP per capita that the United States has enjoyed over its history (see Figure 4-2). If discretionary outlays grew with inflation, federal debt would rise to more than twice the size of GDP by 2030; if they grew with the economy, federal debt would surge to almost three times GDP. With federal debt growing so rapidly, the economy would enter a period of accelerating decline.

CBO's projections show the economy responding smoothly to the rapidly rising debt; in actuality, however, those adjustments would probably be much more disorderly. Foreign investors might suddenly stop investing in U.S. securities, causing the exchange value of the dollar to plunge, interest rates to shoot up, and the economy to tumble into a severe recession. (Those developments have occurred in some countries with rapidly growing government

Table 4-5.
Projections of Federal Receipts and Expenditures, Using the Assumptions of the Base Scenario with Economic Feedbacks, Calendar Years 1995-2050 (As a percentage of GDP)

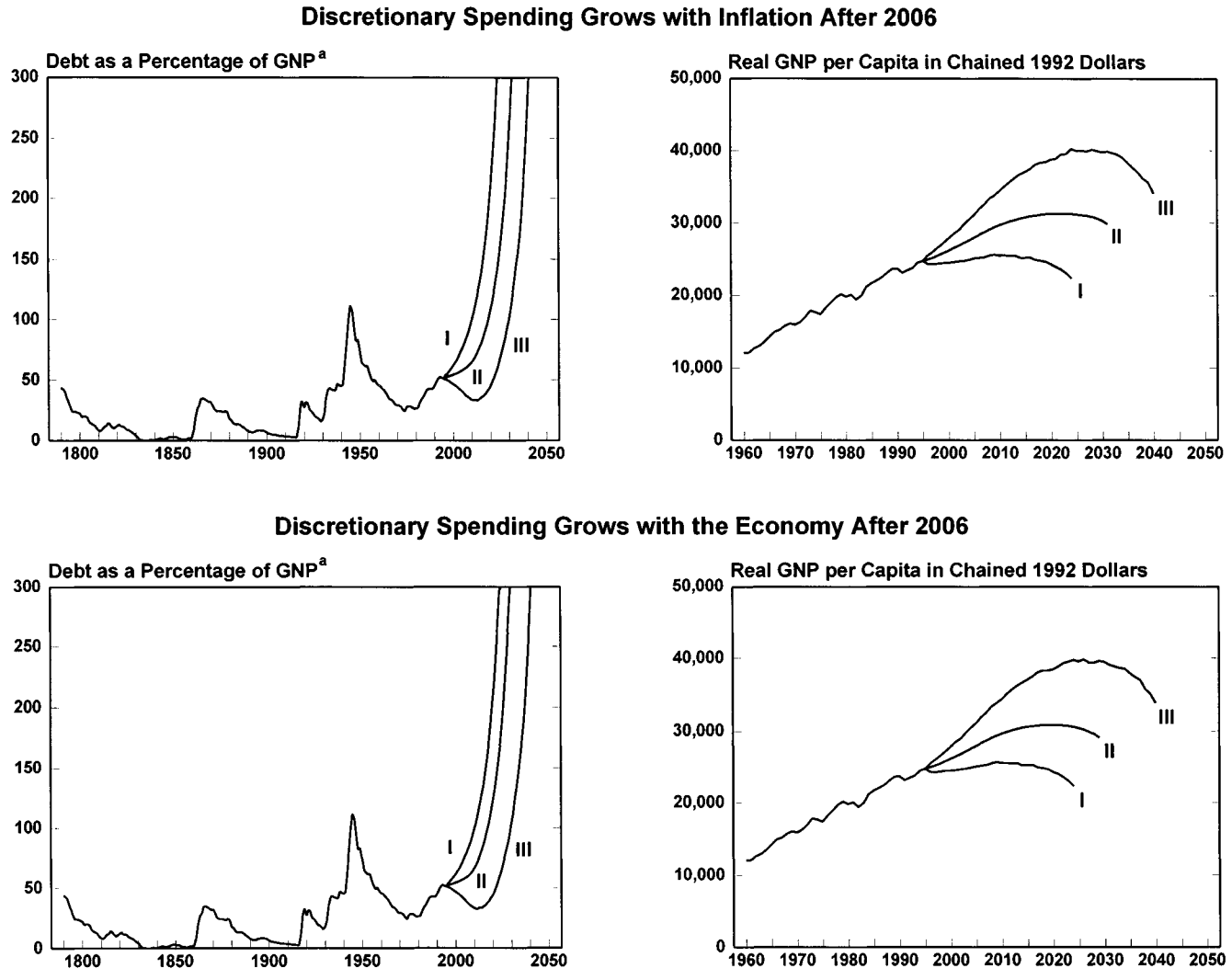
	Preliminary 1995[a]	2000	2005	2010	2015	2020	2025	2030	2050
Discretionary Spending Grows with Inflation After 2006									
NIPA Receipts	20	20	20	20	20	20	20	21	n.c.
NIPA Expenditures									
Federal consumption expenditures	6	6	5	5	4	4	4	4	n.c.
Transfers, grants, and subsidies									
Social Security	5	5	5	5	5	6	7	7	n.c.
Medicare	3	3	4	4	5	6	7	8	n.c.
Medicaid	1	2	2	2	3	3	3	3	n.c.
Other	5	5	4	4	4	4	4	4	n.c.
Net interest	3	3	3	3	4	6	10	20	n.c.
Total	23	22	23	24	26	29	35	47	n.c.
NIPA Deficit	2	3	3	4	6	9	15	26	n.c.
Debt Held by the Public	51	53	57	63	78	104	148	229	n.c.
Memorandum:									
Gross Domestic Product (Trillions of dollars)	7.2	9.2	11.6	14.6	17.9	21.5	25.3	29.0	n.c.
Discretionary Spending Grows with the Economy After 2006									
NIPA Receipts	20	20	20	20	20	20	20	21	n.c.
NIPA Expenditures									
Federal consumption expenditures	6	6	5	5	5	5	5	5	n.c.
Transfers, grants, and subsidies									
Social Security	5	5	5	5	5	6	7	8	n.c.
Medicare	3	3	4	4	5	6	7	8	n.c.
Medicaid	1	2	2	2	3	3	3	3	n.c.
Other	5	5	4	4	4	4	4	4	n.c.
Net interest	3	3	3	3	5	7	13	31	n.c.
Total	23	22	23	24	27	31	39	58	n.c.
NIPA Deficit	2	3	3	5	7	11	19	37	n.c.
Debt Held by the Public	51	53	57	65	83	116	174	293	n.c.
Memorandum:									
Gross Domestic Product (Trillions of dollars)	7.2	9.2	11.6	14.6	17.8	21.2	24.7	27.7	n.c.

SOURCE: Congressional Budget Office.

NOTES: Projections with economic feedbacks allow deficits to push up interest rates and lower the rate of economic growth. NIPA = national income and product account; n.c. = not computable (debt would exceed levels that the economy could reasonably support).

a. Consistent with the first official estimate for 1995 published on March 4, 1996.

Figure 4-2.
Projections of Federal Debt and Real GNP per Capita, Using the Assumptions of the Base Scenario with Economic Feedbacks



SOURCE: Congressional Budget Office.

NOTES: Simulations I, II, and III are based on alternative assumptions about population and productivity growth (see Box 4-2 on page 86). Simulation II is the base scenario, which assumes that the population grows according to the midrange path of the Social Security Administration and that total factor productivity grows at 0.7 percent annually. Simulations I and III are defined so that two-thirds of the 750 alternative simulations fall between them. Thus, the chance of an outcome better than scenario III is about 15 percent; correspondingly, the chance of an outcome worse than scenario I is also about 15 percent.

The projections of real GNP per capita are truncated when debt held by the public exceeds 300 percent of GNP.

a. Based on the definition of GNP before the January 1996 benchmark revision.

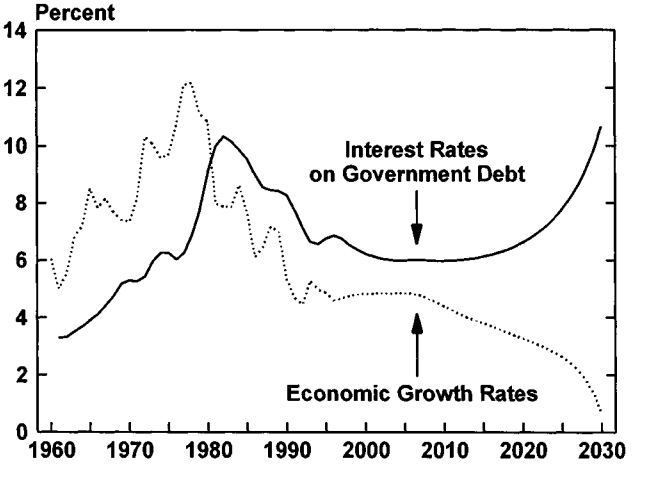
debt.) Higher levels of debt might also ignite fears of inflation in the nation's financial markets, which would push up interest rates even further. Amid the anticipation of declining profits and rising rates, the stock market might collapse, and consumers, fearing economic catastrophe, might suddenly reduce their spending.[8] Moreover, severe economic problems in this country could spill over to the rest of the world and might seriously affect the economies of U.S. trading partners, undermining international trade.

But those disturbing projections are not predictions of what will inevitably happen. Policymakers would surely take action before the economy was driven into such dire straits. As Herbert Stein, former Chairman of the Council of Economic Advisers, once said, "If something cannot go on forever, it will stop." Nonetheless, the projections illustrate what might occur if no changes were made to policy--and demonstrate the importance of controlling the growth of federal debt before it gets out of hand.

Why Economic Feedbacks Worsen the Outlook. Economic feedbacks intensify the nation's long-term budgetary problems for two reasons. First, the cost of interest on the debt would soar as interest rates went up and the stock of federal debt kept getting larger. Because interest costs would be growing continually faster than the economy's income, they would eventually reach an unsustainable level. Indeed, the growth of debt would accelerate out of control as the government attempted to finance its interest payments by issuing more debt. With each new round of debt, the rate of interest that the government paid would move up, and the rate of economic growth would move down (see Figure 4-3). Interest rates in 1995 already exceeded the rate of economic growth, but that situation would grow much worse because interest payments on the debt would be rising ever faster than the economy's ability to service that debt. Eventually, the government would find itself caught in a vicious circle of issuing ever larger amounts of debt to pay for ever higher interest charges.

The second reason that economic feedbacks intensify the nation's long-term budgetary problems concerns the baby boomers. The feedbacks weaken the economy, and as a result, less income is available to finance retirement benefits for the baby-boom generation. Under current law, those benefits are based on retirees' past wages, but they are financed mostly by a tax on the wages of current workers. Thus, even though wages would grow more slowly as the economy weakened, federal spending for Social Security benefits would not begin to slow down right away. Consequently, federal outlays for Social Security would absorb a much larger fraction of the economy's income. The Medicare and Medicaid programs do not pose quite the same problem because spending for them is not linked to past wages. Instead, CBO assumed that as the economy weakened, the growth of health care costs would also slow.

Figure 4-3.
Long-Term Projections of Interest Rates on Federal Debt and Rates of Economic Growth, Using the Assumptions of the Base Scenario with Economic Feedbacks



SOURCE: Congressional Budget Office.

NOTE: Discretionary spending is assumed to grow with the economy. Interest rates and growth rates are smoothed using a centered, three-year moving average. Economic growth rates are measured as percentage changes in nominal gross national product. Interest rates on government debt are based on a weighted average of rates on all maturities of debt.

8. Some people might dramatically increase their saving in the face of economic collapse, which could improve the economic outlook somewhat. In the extreme, if consumers offset all of the increase in the deficit with higher levels of private saving and invested their savings in the United States, the deficit would have no effect on the capital stock, on GDP, or on interest rates. But assuming that consumers would behave that way is unrealistic and extremely risky. Moreover, it seems doubtful that such forward-looking people would invest in the United States, given the risk of a stock market collapse or an increase in inflation.